

ABSTRACT

A high-strength steel pipe rockbolt has an expansive rockbolt main body prepared by processing a high-strength steel sheet of 1.8-2.3 mm in thickness with tensile strength of 490-640 N/mm² and elongation of 20% or more to a welded pipe and roll-forming the welded pipe to a shaped pipe having one or more concavities extending along an axial direction. Use of the high-strength steel sheet ensures sufficient strength of the shaped pipe regardless of a decrease in thickness. The thin welded pipe is also advantageous in resistance to cracking caused by accumulation of strains introduced during roll-forming, swaging both ends of the welded pipe and hydraulic expansion. Moreover, expansive deformation of the shaped pipe is initiated by injection of a pressurized fluid at a low pressure, so that the expansive deformation is completed in a short time period with an improved working efficiency.